

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-53 Cancelled.

54. (New) A method for administering a pharmaceutical composition to a patient in need thereof, comprising:

transnasally administering to the patient a pharmaceutical composition,
the pharmaceutical composition comprising:

an active ingredient; and

a carrier comprising a penetrant suspended or dispersed in a solvent,

the penetrant comprising a minute fluid droplet surrounded by a
coating of at least one layer of at least two substances, the substances
differing by at least a factor of 10 in solubility in a liquid medium,

the substances forming homoaggregates of one substance and/or
heteroaggregates of the at least two substances, the average diameter of
homoaggregates of the more soluble substance or the average diameter of
the heteroaggregates of the at least two substances being smaller than the
average diameter of homoaggregates of the less soluble substance, and/or

the more soluble substance solubilizing the droplet and the content
of the more soluble substance is up to 99 mol-% of the concentration
required to solubilize the droplet or corresponds to up to 99 mol-% of the
saturating concentration in an unsolubilized droplet, whichever is higher,
and/or

wherein the elastic deformation energy of the droplet surrounded
by the coating is at least five times lower than the deformation energy of
red blood cells or of a phospholipid bilayer having fluid aliphatic chains.

55. (New) The method of claim 54, wherein the at least two substances are two forms of a substance.
56. (New) The method of claim 54, wherein the active ingredient is an allergen.
57. (New) The method of claim 54, wherein the active ingredient is an antigen.
58. (New) The method of claim 54, further comprising a compound is a cytokine or induces cytokine or anti-cytokine activity.
59. (New) The method of claim 58 wherein the cytokine is IL-4, IL-3, IL-2, TGF, IL-6, TNF, IL-1 α , IL-1 β , a type I interferon, IFN- α , IFN- β , IL-12, IFN- γ , TNF- β , IL-5 or IL-10.
60. (New) The method of claim 58 wherein the compound with anti-cytokine activity is an anti-cytokine antibody or active fragment, derivative, or analog thereof.
61. (New) The method of claim 58 wherein the cytokine or anti-cytokine activity and the active ingredient are associated with the penetrant.
62. (New) The method of claim 54, wherein the less soluble substance is a lipid, and the more soluble substance is a surfactant.
63. (New) The method of claim 54, wherein the less soluble substance is a lipid, and the more soluble substance is a more soluble form of the lipid.
64. (New) The method of claim 54, wherein the more soluble substance is an agent to be transported across a barrier, the agent forming common large structures with the less soluble component(s) of the penetrant.
65. (New) The method of claim 54, wherein the more soluble substance solubilizes the penetrating droplet and is present in concentration not exceeding 99

mol% of the concentration required to disintegrate the droplet or not exceeding 99 mol% of the saturating concentration in the unsolubilized droplet, whichever is higher.

66. (New) The method of claim 54, wherein the less soluble substance is a polar lipid and the more soluble substance is a surfactant or a surfactant-like molecule.

67. (New) The method of claim 54, wherein the less soluble substance is a polar lipid and the more soluble substance is a polar lipid.

68. (New) The method of claim 54, wherein the average diameter of the penetrant is between 25 nm and 500 nm.

69. (New) The method of claim 54, wherein the average diameter of the penetrant is between 30 nm and 250 nm.

70. (New) The method of claim 54, wherein the average diameter of the penetrant is between 35 nm and 200 nm.

71. (New) The method of claim 54, wherein the average diameter of the penetrant is between 40 nm and 150 nm.

72. (New) The method of claim 54, wherein the concentration of penetrant is 0.001 to 20 weight-% of total dry mass in the pharmaceutical composition.

73. (New) The method of claim 54, wherein the concentration of penetrant is between 0.01 w-% and 15 w-% of total dry mass in the pharmaceutical composition.

74. (New) The method of claim 54, wherein the concentration of penetrant is between 0.1 w-% and 12.5 w-% of total dry mass in the pharmaceutical composition.

75. (New) The method of claim 54, wherein the concentration of penetrant is between 0.5 w-% and 10 w-% of total dry mass in the pharmaceutical composition.

76. (New) The method of claim 54, wherein the liquid medium is a supporting medium.
77. (New) The method of claim 76, wherein the supporting medium is a biocompatible solution having an osmotic activity of a monovalent electrolyte with concentration in the range between 1 mM and 500 mM.
78. (New) The method of claim 76, wherein the supporting medium is a biocompatible solution having an osmotic activity of a monovalent electrolyte with concentration in the range between 10 mM and 400 mM.
79. (New) The method of claim 76, wherein the supporting medium is a biocompatible solution having an osmotic activity of a monovalent electrolyte with concentration in the range between 50 mM and 300 mM.
80. (New) The method of claim 76, wherein the supporting medium is a biocompatible solution having an osmotic activity of a monovalent electrolyte with concentration in the range between 100 mM and 200 mM.
81. (New) The method of claim 76, wherein the supporting medium is a biocompatible solution that has practically sufficient penetrant stability combined with practically sufficient transport rate across a barrier.
82. (New) The method of claim 76, wherein the supporting medium is a biocompatible buffer with pH of between 4 and 10.
83. (New) The method of claim 54, wherein the relative drug or agent concentration is between 0.001 and 40 weight-% of total penetrant mass.
84. (New) The method of claim 54, wherein the relative drug or agent concentration is between 0.01 w-% and 30 w-% of total penetrant mass.

85. (New) The method of claim 54, wherein the relative drug or agent concentration is between 0.1 w-% and 25 w-% of total penetrant mass.
86. (New) The method of claim 54, wherein the relative drug or agent concentration is between 0.5 w-% and 15 w-% of total penetrant mass.
87. (New) The method of claim 54, wherein the applied penetrant dose is between 0.01 mg and 15 mg per nostril.
88. (New) The method of claim 54, wherein the pharmaceutical formulation is administered using a metered delivery device.
89. (New) The method of claim 54, wherein the penetrants are in suspension and further comprising loading the penetrants with the active ingredient within 24 hours prior to the formulation administration before transnasal administration.
90. (New) The method of claim 54, wherein a target site of the active ingredient is a nervous system.
91. (New) The method of claim 90 wherein the target site is a brain.
92. (New) The method of claim 54, wherein the pharmaceutical composition is a vaccine.
93. (New) The method of claim 92, wherein the vaccine further comprises a pathogen extract or a compound from a pathogen or a fragment or a derivative thereof.
94. (New) The method of claim 92, wherein the vaccine further comprises an adjuvant.
95. (New) The method of claim 94, wherein the adjuvant is lipopolysaccharide, or an extract of a microorganism.

96. (New) The method of claim 92, wherein the vaccine comprises MPL and IL-12 or GM-CSF and IL-4.

97. (New) The method of claim 92, wherein at least one dose of vaccine is administered.

98. ((New) The method of claim 92, wherein the vaccine is administered as a booster vaccination.

99. (New) The method of claim 92, wherein the time interval between the subsequent vaccinations is between 2 weeks and 5 years.

100. (New) A method for administering a pharmaceutical composition to a patient in need thereof, comprising:

transnasally administering to the patient a pharmaceutical composition,
wherein the pharmaceutical composition is for the treatment of
infective diseases, endocrine disorders, adrenal disorders, gastrointestinal
disorders, hemorrhagic diseases, musculoskeletal and connective tissue
disorders, neurological disorders, oncological disorders, psychiatric
disorders, and/or for use in the field of gynecology, and/or for use in the
field of immunology,

the pharmaceutical composition comprising:

an active ingredient; and

a carrier comprising a penetrant suspended or dispersed in a
solvent,

the penetrant comprising a minute fluid droplet surrounded
by a coating of at least one layer of at least two substances, the
substances differing by at least a factor of 10 in solubility in a liquid
medium,

the substances form homoaggregates of one substance and/or heteroaggregates of the at least two substances, the average diameter of homoaggregates of the more soluble substance or the average diameter of the heteroaggregates of the at least two substances being smaller than the average diameter of homoaggregates of the less soluble substance, and/or

the more soluble substance solubilizing the droplet and the content of the more soluble substance is up to 99 mol-% of the concentration required to solubilize the droplet or corresponds to up to 99 mol-% of the saturating concentration in an unsolubilized droplet, whichever is higher, and/or

wherein the elastic deformation energy of the droplet surrounded by the coating is at least five times lower than the deformation energy of red blood cells or of a phospholipid bilayer having fluid aliphatic chains.

101. (New) The method of claim 100, wherein the active ingredient is an antigen.
102. (New) The method of claim 101, wherein the antigen is derived from a pathogen.
103. (New) The method of claim 100, wherein the active ingredient is an allergen.
104. (New) A pharmaceutical composition for transnasal administration comprising:

an active ingredient; and

a carrier comprising a penetrant suspended or dispersed in a solvent,

the penetrant comprising a minute fluid droplet surrounded by a coating of at least one layer of at least two substances, the substances differing by at least a factor of 10 in solubility in a liquid medium,

the substances form homoaggregates of one substance and/or heteroaggregates of the at least two substances, the average diameter of homoaggregates of the more soluble substance or the average diameter of the heteroaggregates of the at least two substances being smaller than the average diameter of homoaggregates of the less soluble substance, and/or

the more soluble substance solubilizing the droplet and the content of the more soluble substance is up to 99 mol-% of the concentration required to solubilize the droplet or corresponds to up to 99 mol-% of the saturating concentration in an unsolubilized droplet, whichever is higher, and/or

wherein the elastic deformation energy of the droplet surrounded by the coating is at least five times lower than the deformation of red blood cells or of a phospholipid bilayer having fluid aliphatic chains.